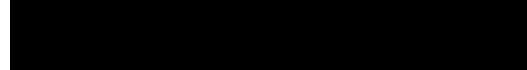


**EXHIBIT 5**



IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

TQ DELTA, LLC,

Plaintiff,

v.

2WIRE, INC.,

Defendant.

Civil Action No. 13-1835-RGA

MEMORANDUM OPINION

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September 15, 2020

/s/ Richard G. Andrews  
**ANDREWS, U.S. DISTRICT JUDGE:**

After a three-day trial in January 2020, a jury found Defendant 2Wire infringed claims 17 and 18 of U.S. Patent No. 7,453,881 ('881 patent). The jury also found the asserted claims were not invalid as anticipated. Before me is 2Wire's Motion for Judgment as a Matter of Law, or in the Alternative, for a New Trial. (D.I. 1292). I have considered the briefing. (D.I. 1293, 1300, 1302). Because substantial evidence supports the jury's verdict, the Motion for Judgment as a Matter of Law is denied. The Motion in the Alternative for a New Trial is also denied.

## **I. BACKGROUND**

Plaintiff TQ Delta filed this action on November 4, 2013, accusing 2Wire of infringing twenty-four patents. (D.I. 1). I split the case into separate trials based on the different families of patents. (D.I. 280). This trial was about Family 2, which the parties ultimately narrowed to only one patent: the '881 patent. This patent relates to asynchronous transfer mode (ATM) over digital subscriber line (DSL). ('881 patent at 1:15-17). TQ Delta asserts claims 17 and 18:

17. A plurality of bonded transceivers, each bonded transceiver utilizing at least one transmission parameter value to reduce a difference in latency between the bonded transceivers, wherein a data rate for a first of the bonded transceivers is different than a data rate for a second of the bonded transceivers.

18. The transceivers of claim 17, wherein the at least one transmission parameter value is a Reed Solomon Coding parameter value, an interleaving parameter value, a coding parameter value, a codeword size value or a framing parameter value.

(*Id.* at 12:57-67).

The accused products are three models of 2Wire DSL modems. On January 16, 2020, the jury found that the three products all infringe both claims. (D.I. 1270). The jury also found that the claims were not anticipated by U.S. Patent No. 6,222,858 (Counterman). (*Id.*).

## II. LEGAL STANDARD

Judgment as a matter of law under Federal Rule of Civil Procedure 50(b) is “granted only if, viewing the evidence in the light most favorable to the nonmovant and giving it the advantage of every fair and reasonable inference, there is insufficient evidence from which a jury reasonably could find for the nonmovant.” *Amgen Inc. v. Hospira, Inc.*, 944 F.3d 1327, 1333 (Fed. Cir. 2019) (cleaned up). Infringement and anticipation are both factual questions, and the jury’s decision is reviewed for substantial evidence. *Id.* at 1335-36. “A factual finding is supported by substantial evidence if a reasonable jury could have found in favor of the prevailing party in light of the evidence presented at trial.” *Id.* at 1335. Judgment as a matter of law is “sparingly” granted, and courts “must refrain from weighing the evidence, determining the credibility of witnesses, or substituting our own version of the facts for that of the jury.” *Marra v. Philadelphia Hous. Auth.*, 497 F.3d 286, 300 (3d Cir. 2007).

A district court has discretion to grant a new trial under Federal Rule of Civil Procedure 59(a). *Olefins Trading, Inc. v. Han Yang Chem Corp.*, 9 F.3d 282, 289 (3d Cir. 1993). One reason a court may grant a new trial is if “the jury’s verdict is against the clear weight of the evidence, and a new trial [is necessary] to prevent a miscarriage of justice.” *Solvay, S.A. v. Honeywell Int’l Inc.*, 886 F. Supp. 2d 396, 401 (D. Del. 2012), *aff’d*, 742 F.3d 998 (Fed. Cir. 2014). In deciding whether to grant a new trial, a court may not “substitute its judgment of the facts and the credibility of the witnesses for that of the jury.” *Leonard v. Stemtech Int’l Inc.*, 834 F.3d 376, 386 (3d Cir. 2016).

### III. DISCUSSION

#### A. Infringement

“Literal infringement of a claim exists when every limitation recited in the claim is found in the accused device.” *Kahn v. Gen. Motors Corp.*, 135 F.3d 1472, 1477 (Fed. Cir. 1998). 2Wire argues that its products do not “utiliz[e] at least one transmission parameter value to reduce a difference in latency between the bonded transceivers,” as required by the asserted claims. I construed this limitation to mean: “utiliz[e] at least one transmission parameter value to reduce a difference in *configuration* latency between the bonded transceivers.” (D.I. 492) (emphasis added). The specification explains that “configuration latency . . . is based on the configuration of the DSL transmission parameters,” and that “these parameters include the data rate, coding parameters, such as the coding method, codeword size, interleaving parameters, framing parameters, or the like.” (’881 patent at 6:12-16).

At trial, TQ Delta called Dr. Kevin Almeroth, who examined the firmware on the accused products. Dr. Almeroth testified that the source code uses functions called “minDelay” and “maxDelay” to set minimum and maximum latency constraints on each of the bonded lines of a DSL connection. (D.I. 1308 at 158:12-161:3). Dr. Todor Cooklev, another expert for TQ Delta, reviewed Dr. Almeroth’s analysis of the source code. Based on that analysis, Dr. Cooklev testified that the “transmission parameters are selected independently such that the latency of each bonded line falls between the maximum and the minimum value that is specified.” (*Id.* at 58:10-13). This process, he testified, means that “the latency difference between the two lines is reduced to the difference between the maximum and the minimum so that it can be no more than that difference.” (*Id.* at 58:14-17). Dr. Cooklev concluded that the firmware on the accused

products therefore shows that the products reduce the difference in configuration latency between the bonded transceivers. (*Id.* at 58:17-19).

In addition to this source code evidence, TQ Delta pointed to 2Wire's compliance with international technical standards. One standard, ITU-T G.998.2, states, "Multi-pair operation requires a bound on the differential latency experienced between pairs in an aggregated group." (*Id.* at 51:1-3). Dr. Cooklev testified that a "bound" is an upper limit, and the standard requires that the differential latency between the pairs be below that bound. (*Id.* at 51:4-7). Another standard, IEE 802.3ah, states, "The maximum latency difference between any two aggregated links is controlled." (*Id.* at 52:1-3). Dr. Cooklev testified that this means the difference in latency between two bonded transceivers is controlled to be below the upper limit allowed for differential latency. (*Id.* at 3:7). He further testified that 2Wire publicized that its products comply with these bonding standards. (*Id.* at 37:3-14).

TQ Delta also presented evidence based on 2Wire's own documents. Dr. Cooklev pointed to a 2Wire document, called the "Ubermatrix," which states, "Bonded lines MUST be configurable to run the same interleaving delay." (*Id.* at 55:10-13) (emphasis in original). Dr. Cooklev testified that this requirement means the products are capable of using transmission parameters, such as codeword size and interleaver depth, to "achieve the same interleaving delay," and they thus "reduce the difference in latency between the lines down to zero." (*Id.* at 55:15-22). According to Dr. Cooklev, "interleaving delay," as used in the Ubermatrix, is the same as "configuration latency." (*Id.* at 56:13-21).

2Wire argues TQ Delta presented only hypothetical evidence, and none of this evidence shows an actual reduction in differential latency. (D.I. 1293 at 5). For example, 2Wire attacks Dr. Cooklev's testimony because he referred to a chart, which showed hypothetical examples of

how differences in latency would change based on varying transmission parameters. (*Id.* at 6). This chart, however, was merely an illustration of Dr. Cooklev's point. He primarily formed his opinion based on 2Wire's source code, the products' compliance with technical standards, and 2Wire's documents about its products' functionality. Dr. Almeroth pointed to specific portions of code that constrained the latency of the bonded lines. This was not hypothetical evidence.

It was not necessary for TQ Delta to run live simulations in front of the jury of modems with and without the claimed invention. As Dr. Cooklev testified, it would be impossible to take infringing portions of the software out of the devices to run such tests. (D.I. 1308 at 94:5-8). There was no testimony at trial that the devices could operate in multiple possible modes, and only some of those modes were infringing. No witness testified, for instance, that the "minDelay" and "maxDelay" functions were merely optional features or that they only applied in certain modes. Even if it is theoretically possible that the latencies of two bonded lines could occasionally fall within the maximum and minimum constraints (in which case, the difference in latency would not be reduced), the jury could still reasonably conclude that the products necessarily infringe at least some of the time. See *Wisconsin Alumni Research Found. v. Apple Inc.*, 905 F.3d 1341, 1349 (Fed. Cir. 2018). ("[A] product that sometimes, but not always, embodies a claim nonetheless infringes.") (cleaned up). Thus, viewing the evidence in the light most favorable to TQ Delta, I conclude the jury's infringement verdict was supported by substantial evidence about the functionality of the accused products.

I will also deny 2Wire's alternative motion for a new trial on infringement. The jury's verdict was not against the clear weight of the evidence presented at trial. The testimony about the source code, technical standards, and 2Wire documents all weighed in favor of infringement. The evidence was not, as 2Wire argues, merely hypothetical. Rather, the evidence supports the

jury's finding that the accused products use transmission parameter values, such as codeword size and interleaver depth, to "reduce a difference in latency between the bonded transceivers." The record does not suggest the verdict resulted in a "miscarriage of justice," nor was this a case where the verdict "cries out to be overturned or shocks [the] conscience." *Williamson v. Consol. Rail Corp.*, 926 F.2d 1344, 1353 (3d Cir. 1991). Thus, I will deny the motion for a new trial.

### **B. Invalidity**

A patent is invalid for anticipation under 35 U.S.C. § 102 "if a single prior art reference discloses each and every limitation of the claimed invention." *Schering Corp. v. Geneva Pharm.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003). Anticipation must be shown by clear and convincing evidence. *Orion IP, LLC v. Hyundai Motor Am.*, 605 F.3d 967, 975 (Fed. Cir. 2010). Because 2Wire bore the burden of proof at trial on invalidity, to succeed on its motion for judgment as a matter of law, it must establish "there is insufficient evidence for permitting any different finding." *Amgen Inc. v. Hospira, Inc.*, 944 F.3d 1327, 1333 (Fed. Cir. 2019).

2Wire argues that the asserted claims of the '881 patent were anticipated by Counterman, an earlier patent that also relates to data communication systems, such as DSL. TQ Delta argues that Counterman lacks the claim element, "each bonded transceiver utilizing at least one transmission parameter value to reduce a difference in [configuration] latency between the bonded transceivers." Dr. Krista Jacobsen, an expert witness for 2Wire, testified that Counterman meets this limitation, and she pointed to a portion of Counterman which discloses, "[N]ominal cell transfer delay is typically the result of selecting certain FEC [forward error correction] parameters in order to meet a desired, common QoS [quality of service] objective." (D.I. 1309 at 615:11-16) (citing Counterman at 6:8-13). Dr. Jacobsen opined, "So what this is saying is you control the delay by selecting certain FEC parameters to meet whatever your

quality of service requirement is, which [] includes whatever delay you're looking to meet." (D.I. 1309 at 615:16-19).

Dr. Cooklev, however, testified that, rather than using transmission parameters to reduce a difference in latency, Counterman groups links together that happen to have the same latency. (D.I. 1309 at 671:1-3). This grouping, according to Dr. Cooklev, occurs after the transceivers have been configured. (*Id.* at 671:3-5). Dr. Cooklev testified that, at that point, "it's too late to initialize them" because "they've already been initialized, and then there is just the decision to group them or not." (*Id.* at 671:6-8). Thus, Dr. Cooklev concluded, Counterman does not disclose a system that "reduce[s] the difference" in configuration latency.

2Wire responds that claim 17 does not require transceivers to be bonded (or grouped) *before* transmission parameters are selected. (D.I. 1302 at 6). This misses Dr. Cooklev's point. If Counterman just discloses a technique of grouping links together with the same latency, then a reasonable jury could have concluded it does not actually "reduce a difference in configuration latency" between any two links. The difference in latency between any two links would remain the same. Counterman might be addressing the same problem as the '881 patent, but it is solving it in a different way. As Dr. Jacobsen testified, Counterman discloses a technique for meeting a "quality of service requirement," which can be low delay, but a reasonable jury could have concluded she did not provide clear and convincing evidence that Counterman discloses a technique to "reduce a difference in latency" between any two links (or transceivers). Thus, I find there was substantial evidence to support the jury's verdict that the asserted claims were not invalid as anticipated.

I will also deny 2Wire's motion in the alternative for a new trial on invalidity because a new trial is not necessary to "prevent a miscarriage of justice." *Solvay*, 886 F. Supp. 2d at 401.

The jury had sufficient evidence to support its verdict, especially considering 2Wire's burden to prove invalidity by clear and convincing evidence.

### C. Jury Instructions

2Wire argues I erred in providing the following jury instruction on infringement:

Claims 17 and 18 of the '881 patent are apparatus claims. An apparatus claim covers what a device is, not what a device does. If you find that TQ Delta has demonstrated any of 2Wire's accused products infringe claims 17 and/or 18, then you must find that 2Wire's accused products infringe claims 17 and/or 18 regardless of how the accused products are actually used by 2Wire or its customers.

(D.I. 1312 at 772:1-8).

A party seeking a new trial based on an erroneous jury instruction must establish: "(1) it made a proper and timely objection to the jury instructions, (2) those instructions were legally erroneous, (3) the errors had prejudicial effect, and (4) it requested alternative instructions that would have remedied the error." *Seachange Int'l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1381 (Fed. Cir. 2005).

There was a timely objection. (D.I. 1309 at 710:14 – 715:15). 2Wire argues this instruction was erroneous because claim 17 includes the word "utilizing." (D.I. 1293 at 15). 2Wire argues the jury should have been instructed that TQ Delta needed to show that "each bonded transceiver" actually utilizes "a transmission parameter to reduce a difference in latency," and not just that the transceivers are capable of that function. I never instructed the jury, however, that it could find infringement if the accused device were merely capable of infringement. In addition to the instruction 2Wire challenges, I told the jury:

A patent claim is infringed only if a 2Wire product includes each and every element recited in that patent claim. If 2Wire's product does not contain one or more elements recited in a claim, that 2Wire product does not infringe that claim.

(D.I. 1312 at 771:17-21).

Thus, the jury was instructed that 2Wire needed to show the accused products included each and every element of the asserted claims, including the “utilizing” element. This was a correct statement of law. *See LifeNet Health v. LifeCell Corp.*, 837 F.3d 1316, 1325 (Fed. Cir. 2016) (“Direct infringement of an apparatus claim requires that each and every limitation set forth in a claim appear in an accused product.”) (cleaned up). I therefore conclude this instruction was not erroneous, and I deny 2Wire’s motion for a new trial.

#### **D. Evidentiary Ruling on Prosecution History**

2Wire argues it was prejudiced by my ruling at trial to exclude certain testimony about the file history of the ’881 patent. Following an objection by TQ Delta’s counsel, I ruled that 2Wire could elicit testimony about what prior art was in front of the patent examiner, but that testimony about a “lengthy history of cancelling claims, adding claims, rejecting claims, [and] rejecting new claims” was inadmissible under Federal Rule of Evidence 403 because “the fact that the claims were rejected a bunch of times or some claims were rejected a bunch of times before they were eventually issued, that’s prejudicial with no probative value at all.” (D.I. 1307 at 282:1-12). 2Wire’s counsel had argued the testimony would be probative because it “gives the jury background about the prosecution of the patent.” (*Id.* at 281:13-17).

Now, 2Wire argues the testimony would have shown “asserted claims 17 and 18 were never considered by the examiner in view of Counterman.” (D.I. 1293 at 17). According to 2Wire, although Counterman is listed on the face of the ’881 patent as prior art, the applicant disclosed Counterman years before the applicant amended the patent to include the asserted claims. (*Id.*). That evidence, however, would not have shown that the examiner failed to consider whether Counterman anticipated the asserted claims. If the applicant disclosed Counterman

before the asserted claims were added, then the examiner certainly could have considered whether Counterman rendered the new claims invalid. The U.S. Patent Office does not require applicants to re-submit references, even if the application process takes several years. *See MPEP § 609.02; Bone Care Int'l, LLC v. Pentech Pharm., Inc.*, 741 F. Supp. 2d 854, 862 (N.D. Ill. 2010) (“[T]he applicable regulations presume that some material information that previously was disclosed need not be resubmitted because that information remains ‘of record’ (37 C.F.R. § 1.56(b)) and thus presumably available to the examiner.”). All 2Wire’s witness, Dr. Jacobsen, could have done was speculate that the examiner might have neglected to consider claims 17 and 18 in view of Counterman. And in fact, Dr. Jacobsen did testify to that effect:

**Dr. Jacobsen:** Well, I don't know the examiner's thought process, of course, but the prosecution of this patent, the '881 patent, was over many years. As Judge Fogel told us in the patent video, mistakes can happen, examiners are human. So there were a lot of claims in this application. But yes, it's listed on the front of the patent.

**Question:** Are you saying the whole patent is invalid?

**Dr. Jacobsen:** No, no, not at all. As we talked about before, all that we're talking about today is claims 17 and 18. And I don't know how the examiner or whether the examiner considered Counterman or what his thought processes relative to claims 17 and 18.

(D.I. 1309 at 610:8-19).

After this testimony, I said 2Wire’s counsel was “free to quote Dr. Jacobsen as saying, you know, you can’t tell.” (D.I. 1312 at 805:9-10). I conclude that my evidentiary ruling was not in error. Lengthy testimony about the history of various amendments to the '881 patent would have risked confusing the issues and would have had little or no probative value. Ultimately, 2Wire’s point was simply that the examiner might have failed to consider whether Counterman anticipated claims 17 and 18. 2Wire was able to elicit that testimony. Thus, even if my ruling was erroneous, it was harmless.

#### IV. CONCLUSION

For these reasons, 2Wire's Motion for Judgment as a Matter of Law, or in the Alternative, for a New Trial (D.I. 1292) is DENIED. A separate order will be entered.